**SAMPLE 5**

>lcl|20717 forward

Length=723

Score = 1312 bits (710), Expect = 0.0

Identities = 719/724 (99%), Gaps = 1/724 (0%)

Strand=Plus/Plus

Query 86 ATGGCACGCGTTACCCTCGTTCTGCGTTACGCTGCGCGTTCTGACCGTGGTCTGGTTCGC 145

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 1 ATGGCACGCGTTACCCTCGTTCTGCGTTACGCTGCGCGTTCTGACCGTGGTCTGGTTCGC 60

Query 146 GCAAACAATGAGGACTCTGTTTACGCGGGTGCTCGTCTCCTCGCGCTGGCCGACGGCATG 205

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 61 GCAAACAATGAGGACTCTGTTTACGCGGGTGCTCGTCTCCTCGCGCTGGCCGACGGCATG 120

Query 206 GGTGGTCACGCCGCCGGTGAAGTTGCGTCTCAGCTGGTTATCGCAGCCCTGGCGCATCTC 265

||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 121 GGTGGTCACGCTGCCGGTGAAGTTGCGTCTCAGCTGGTTATCGCAGCCCTGGCGCATCTC 180

Query 266 GACGATGACGAACCGGGTGGTGACCTCCTGGCGAAACTGGACGCCGCAGTGCGTGCCGGT 325

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 181 GACGATGACGAACCGGGTGGTGACCTCCTGGCGAAACTGGACGCCGCAGTGCGTGCCGGT 240

Query 326 AACTCTGCGATTGCGGCGCAGGTTGAAATGGAACCGGACCTGGAGGGTATGGGTACCACC 385

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 241 AACTCTGCGATTGCGGCGCAGGTTGAAATGGAACCGGACCTGGAGGGTATGGGTACCACC 300

Query 386 CTGACGGCGATCCTGTTCGCGGGTAATCGTCTGGGTCTCGTTCACATCGGTGACTCTCGT 445

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 301 CTGACGGCGATCCTGTTCGCGGGTAATCGTCTGGGTCTCGTTCACATCGGTGACTCTCGT 360

Query 446 GGTTACCTGCTGCGTGACGGTGAAACTGACTCAGATCACCAAAGACGACACCTTTGTTCA 505

|||||||||||||||||||||| |||||||||||||||||||||||||||||||||||||

Sbjct 361 GGTTACCTGCTGCGTGACGGTG-AACTGACTCAGATCACCAAAGACGACACCTTTGTTCA 419

Query 506 GACTCTGGTTGACGAATGTCGTATCACCCCGGAAGAAGCGCACTCTCATCCGCAACGTTC 565

|||||||||||||||| |||||||||||||||||||||||||||||||||||||||||||

Sbjct 420 GACTCTGGTTGACGAAGGTCGTATCACCCCGGAAGAAGCGCACTCTCATCCGCAACGTTC 479

Query 566 TCTGATCATGCGCGCTCTCACGGGCCACGAAGTTGAACCAACCCTCACCATGCGTGAAGC 625

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 480 TCTGATCATGCGCGCTCTCACGGGCCACGAAGTTGAACCAACCCTCACCATGCGTGAAGC 539

Query 626 GCGTGCGGGTGACCGCTACCTCCTCTGCTCTGATGGTCTCTCTGACCCTGTTTCTGACGA 685

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 540 GCGTGCGGGTGACCGCTACCTCCTCTGCTCTGATGGTCTCTCTGACCCTGTTTCTGACGA 599

Query 686 AACCATCCTCGAAGCGCTGCAGATTCCGGANGTTGCTGAATCCGCCCATCGCCTGATTGA 745

|||||||||||||||||||||||||||||| |||||||||||||||||||||||||||||

Sbjct 600 AACCATCCTCGAAGCGCTGCAGATTCCGGAGGTTGCTGAATCCGCCCATCGCCTGATTGA 659

Query 746 ACTGGCGCTCCGTGGTGGCGGTCCNGATAATGTTACTGTTGTAGTTGCCGATGTCGTTGA 805

|||||||||||||||||||||||| |||||||||||||||||||||||||||||||||||

Sbjct 660 ACTGGCGCTCCGTGGTGGCGGTCCGGATAATGTTACTGTTGTAGTTGCCGATGTCGTTGA 719

Query 806 CTAA 809

||||

Sbjct 720 CTAA 723

>lcl|9079 reverse

Length=723

Score = 1319 bits (714), Expect = 0.0

Identities = 721/724 (99%), Gaps = 1/724 (0%)

Strand=Plus/Minus

Query 85 TTAGTCAACGACATCGGCAACTACAACAGTAACATTATCCGGACCGCCACCACGGAGCGC 144

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 723 TTAGTCAACGACATCGGCAACTACAACAGTAACATTATCCGGACCGCCACCACGGAGCGC 664

Query 145 CAGTTCAATCAGGCGATGGGCGGATTCAGCAACCTCCGGAATCTGCAGCGCTTCGAGGAT 204

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 663 CAGTTCAATCAGGCGATGGGCGGATTCAGCAACCTCCGGAATCTGCAGCGCTTCGAGGAT 604

Query 205 GGTTTCGTCAGAAACAGGGTCAGAGAGACCATCAGAGCAGAGGAGGTAGCGGTCACCCGC 264

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 603 GGTTTCGTCAGAAACAGGGTCAGAGAGACCATCAGAGCAGAGGAGGTAGCGGTCACCCGC 544

Query 265 ACGCGCTTCACGCATGGTGAGGGTTGGTTCAACTTCGTGGCCCGTGAGAGCGCGCATGAT 324

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 543 ACGCGCTTCACGCATGGTGAGGGTTGGTTCAACTTCGTGGCCCGTGAGAGCGCGCATGAT 484

Query 325 CAGAGAACGTTGCGGATGAGAGTGCGCTTCTTCCGGGGTGATACGACATTCGTCAACCAG 384

||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||

Sbjct 483 CAGAGAACGTTGCGGATGAGAGTGCGCTTCTTCCGGGGTGATACGACCTTCGTCAACCAG 424

Query 385 AGTCTGAACAAAGGTGTCGTCTTTGGTGATCTGAGTCAGTTTCACCGTCACGCAGCAGGT 444

||||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||

Sbjct 423 AGTCTGAACAAAGGTGTCGTCTTTGGTGATCTGAGTCAGTT-CACCGTCACGCAGCAGGT 365

Query 445 AACCACGAGAGTCACCGATGTGAACGAGACCCAGACGATTACCCGCGAACAGGATCGCCG 504

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 364 AACCACGAGAGTCACCGATGTGAACGAGACCCAGACGATTACCCGCGAACAGGATCGCCG 305

Query 505 TCAGGGTGGTACCCATACCCTCCAGGTCCGGTTCCATTTCAACCTGCGCCGCAATCGCAG 564

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 304 TCAGGGTGGTACCCATACCCTCCAGGTCCGGTTCCATTTCAACCTGCGCCGCAATCGCAG 245

Query 565 AGTTACCGGCACGCACTGCGGCGTCCAGTTTCGCCAGGAGGTCACCACCCGGTTCGTCAT 624

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 244 AGTTACCGGCACGCACTGCGGCGTCCAGTTTCGCCAGGAGGTCACCACCCGGTTCGTCAT 185

Query 625 CGTCGAGATGCGCCAGGGCTGCGATAACCAGCTGAGACGCAACTTCACCGGCGGCGTGAC 684

|||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||

Sbjct 184 CGTCGAGATGCGCCAGGGCTGCGATAACCAGCTGAGACGCAACTTCACCGGCAGCGTGAC 125

Query 685 CACCCATGCCGTCGGCCAGCGCGAGGAGACGAGCACCCGCGTAAACAGAGTCCTCATTGT 744

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 124 CACCCATGCCGTCGGCCAGCGCGAGGAGACGAGCACCCGCGTAAACAGAGTCCTCATTGT 65

Query 745 TTGCGCGAACCAGACCACGGTCAGAACGCGCAGCGTAACGCAGAACGAGGGTAACGCGTG 804

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

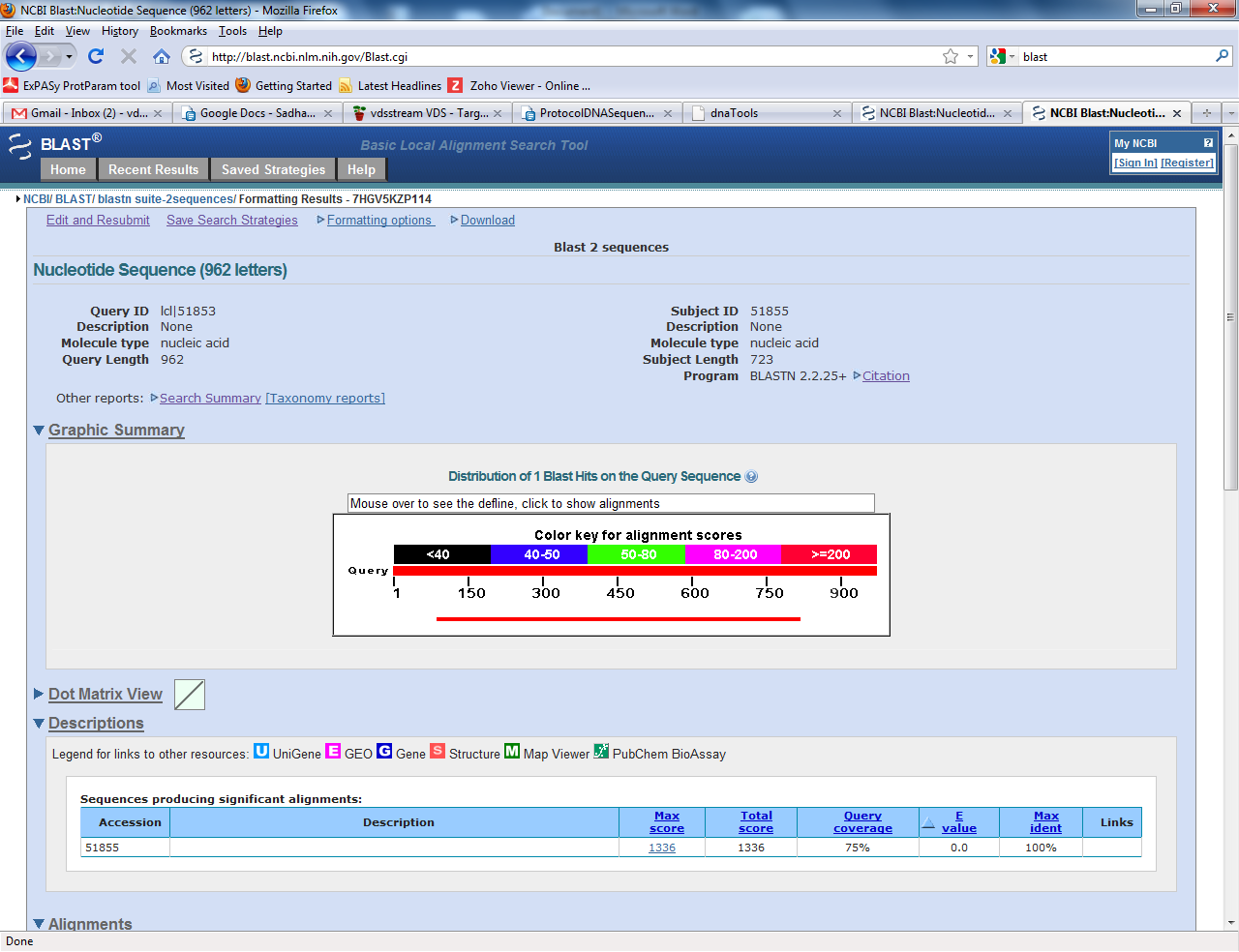
Sbjct 64 TTGCGCGAACCAGACCACGGTCAGAACGCGCAGCGTAACGCAGAACGAGGGTAACGCGTG 5

Query 805 CCAT 808

||||

Sbjct 4 CCAT 1

**SAMPLE 6:**



>lcl|32175 forward

Length=723

Score = 1336 bits (723), Expect = 0.0

Identities = 723/723 (100%), Gaps = 0/723 (0%)

Strand=Plus/Plus

Query 89 ATGGCACGCGTTACCCTCGTTCTGCGTTACGCTGCGCGTTCTGACCGTGGTCTGGTTCGC 148

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 1 ATGGCACGCGTTACCCTCGTTCTGCGTTACGCTGCGCGTTCTGACCGTGGTCTGGTTCGC 60

Query 149 GCAAACAATGAGGACTCTGTTTACGCGGGTGCTCGTCTCCTCGCGCTGGCCGACGGCATG 208

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 61 GCAAACAATGAGGACTCTGTTTACGCGGGTGCTCGTCTCCTCGCGCTGGCCGACGGCATG 120

Query 209 GGTGGTCACGCTGCCGGTGAAGTTGCGTCTCAGCTGGTTATCGCAGCCCTGGCGCATCTC 268

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 121 GGTGGTCACGCTGCCGGTGAAGTTGCGTCTCAGCTGGTTATCGCAGCCCTGGCGCATCTC 180

Query 269 GACGATGACGAACCGGGTGGTGACCTCCTGGCGAAACTGGACGCCGCAGTGCGTGCCGGT 328

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 181 GACGATGACGAACCGGGTGGTGACCTCCTGGCGAAACTGGACGCCGCAGTGCGTGCCGGT 240

Query 329 AACTCTGCGATTGCGGCGCAGGTTGAAATGGAACCGGACCTGGAGGGTATGGGTACCACC 388

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 241 AACTCTGCGATTGCGGCGCAGGTTGAAATGGAACCGGACCTGGAGGGTATGGGTACCACC 300

Query 389 CTGACGGCGATCCTGTTCGCGGGTAATCGTCTGGGTCTCGTTCACATCGGTGACTCTCGT 448

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 301 CTGACGGCGATCCTGTTCGCGGGTAATCGTCTGGGTCTCGTTCACATCGGTGACTCTCGT 360

Query 449 GGTTACCTGCTGCGTGACGGTGAACTGACTCAGATCACCAAAGACGACACCTTTGTTCAG 508

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 361 GGTTACCTGCTGCGTGACGGTGAACTGACTCAGATCACCAAAGACGACACCTTTGTTCAG 420

Query 509 ACTCTGGTTGACGAAGGTCGTATCACCCCGGAAGAAGCGCACTCTCATCCGCAACGTTCT 568

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 421 ACTCTGGTTGACGAAGGTCGTATCACCCCGGAAGAAGCGCACTCTCATCCGCAACGTTCT 480

Query 569 CTGATCATGCGCGCTCTCACGGGCCACGAAGTTGAACCAACCCTCACCATGCGTGAAGCG 628

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 481 CTGATCATGCGCGCTCTCACGGGCCACGAAGTTGAACCAACCCTCACCATGCGTGAAGCG 540

Query 629 CGTGCGGGTGACCGCTACCTCCTCTGCTCTGATGGTCTCTCTGACCCTGTTTCTGACGAA 688

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 541 CGTGCGGGTGACCGCTACCTCCTCTGCTCTGATGGTCTCTCTGACCCTGTTTCTGACGAA 600

Query 689 ACCATCCTCGAAGCGCTGCAGATTCCGGAGGTTGCTGAATCCGCCCATCGCCTGATTGAA 748

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 601 ACCATCCTCGAAGCGCTGCAGATTCCGGAGGTTGCTGAATCCGCCCATCGCCTGATTGAA 660

Query 749 CTGGCGCTCCGTGGTGGCGGTCCGGATAATGTTACTGTTGTAGTTGCCGATGTCGTTGAC 808

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

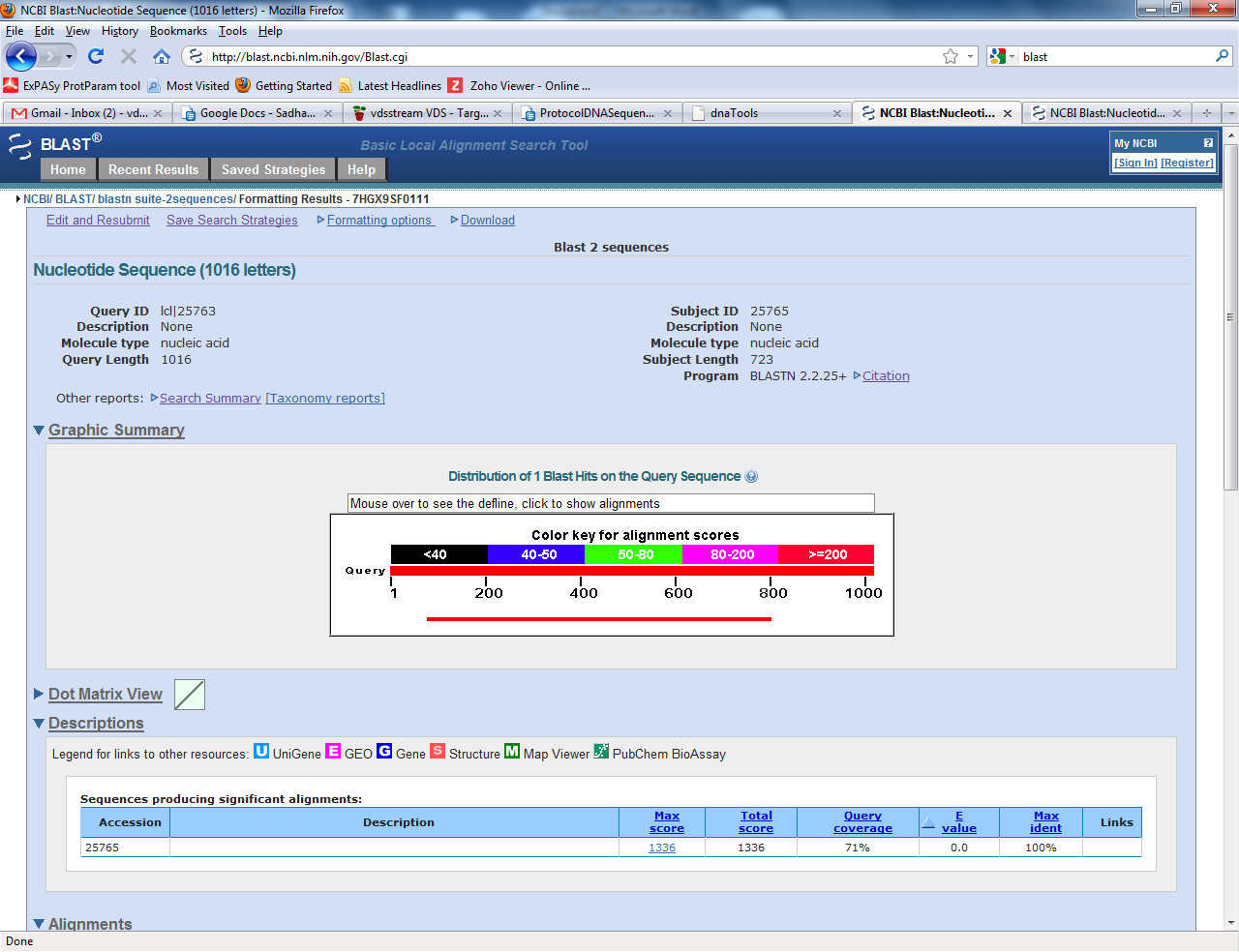
Sbjct 661 CTGGCGCTCCGTGGTGGCGGTCCGGATAATGTTACTGTTGTAGTTGCCGATGTCGTTGAC 720

Query 809 TAA 811

|||

Sbjct 721 TAA 723

**SAMPLE 2:**



>lcl|25765 forward

Length=723

Score = 1336 bits (723), Expect = 0.0

Identities = 723/723 (100%), Gaps = 0/723 (0%)

Strand=Plus/Plus

Query 80 ATGGCACGCGTTACCCTCGTTCTGCGTTACGCTGCGCGTTCTGACCGTGGTCTGGTTCGC 139

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 1 ATGGCACGCGTTACCCTCGTTCTGCGTTACGCTGCGCGTTCTGACCGTGGTCTGGTTCGC 60

Query 140 GCAAACAATGAGGACTCTGTTTACGCGGGTGCTCGTCTCCTCGCGCTGGCCGACGGCATG 199

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 61 GCAAACAATGAGGACTCTGTTTACGCGGGTGCTCGTCTCCTCGCGCTGGCCGACGGCATG 120

Query 200 GGTGGTCACGCTGCCGGTGAAGTTGCGTCTCAGCTGGTTATCGCAGCCCTGGCGCATCTC 259

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 121 GGTGGTCACGCTGCCGGTGAAGTTGCGTCTCAGCTGGTTATCGCAGCCCTGGCGCATCTC 180

Query 260 GACGATGACGAACCGGGTGGTGACCTCCTGGCGAAACTGGACGCCGCAGTGCGTGCCGGT 319

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 181 GACGATGACGAACCGGGTGGTGACCTCCTGGCGAAACTGGACGCCGCAGTGCGTGCCGGT 240

Query 320 AACTCTGCGATTGCGGCGCAGGTTGAAATGGAACCGGACCTGGAGGGTATGGGTACCACC 379

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 241 AACTCTGCGATTGCGGCGCAGGTTGAAATGGAACCGGACCTGGAGGGTATGGGTACCACC 300

Query 380 CTGACGGCGATCCTGTTCGCGGGTAATCGTCTGGGTCTCGTTCACATCGGTGACTCTCGT 439

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 301 CTGACGGCGATCCTGTTCGCGGGTAATCGTCTGGGTCTCGTTCACATCGGTGACTCTCGT 360

Query 440 GGTTACCTGCTGCGTGACGGTGAACTGACTCAGATCACCAAAGACGACACCTTTGTTCAG 499

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 361 GGTTACCTGCTGCGTGACGGTGAACTGACTCAGATCACCAAAGACGACACCTTTGTTCAG 420

Query 500 ACTCTGGTTGACGAAGGTCGTATCACCCCGGAAGAAGCGCACTCTCATCCGCAACGTTCT 559

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 421 ACTCTGGTTGACGAAGGTCGTATCACCCCGGAAGAAGCGCACTCTCATCCGCAACGTTCT 480

Query 560 CTGATCATGCGCGCTCTCACGGGCCACGAAGTTGAACCAACCCTCACCATGCGTGAAGCG 619

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 481 CTGATCATGCGCGCTCTCACGGGCCACGAAGTTGAACCAACCCTCACCATGCGTGAAGCG 540

Query 620 CGTGCGGGTGACCGCTACCTCCTCTGCTCTGATGGTCTCTCTGACCCTGTTTCTGACGAA 679

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 541 CGTGCGGGTGACCGCTACCTCCTCTGCTCTGATGGTCTCTCTGACCCTGTTTCTGACGAA 600

Query 680 ACCATCCTCGAAGCGCTGCAGATTCCGGAGGTTGCTGAATCCGCCCATCGCCTGATTGAA 739

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 601 ACCATCCTCGAAGCGCTGCAGATTCCGGAGGTTGCTGAATCCGCCCATCGCCTGATTGAA 660

Query 740 CTGGCGCTCCGTGGTGGCGGTCCGGATAATGTTACTGTTGTAGTTGCCGATGTCGTTGAC 799

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 661 CTGGCGCTCCGTGGTGGCGGTCCGGATAATGTTACTGTTGTAGTTGCCGATGTCGTTGAC 720

Query 800 TAA 802

|||

Sbjct 721 TAA 723

***Sample 6 will be used for protein expression because of its higher concentration. (37.8ng/ul)***